DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003376
Date Inspected: 31-Jul-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name: Zhashi and Hu Wei Qing

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and SAS Tower Fabrication

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm
This QA Inspector randomly observed five ZPMC welders ID #066401, ID #066674, ID #066751, ID #058174 and ID #037705 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill passes on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly WSD1-SA268 weld joint 3A, 17A and 7A and WSD1-SA317 weld joints 9B and 18B . The QA Inspector randomly observed ZPMC CWI Zhao Chen Sun monitoring preheat and weld parameters.

Tack weld/fit-up and pre-assembly of 40mm/60mm thick web plate to double tower diaphragm ESD1-SA234B/B using Excalibur E9018M H4R, 4.8mm diameter noted. Tower double diaphragm plate to web plate of SSD1-SA27 B/B is idle at the moment. Waiting for root MT on welded web plate to diaphragm plate this QA observed. During my return to this Bay, ZPMC/NDE was noted performing MT on the root of PJP connection of web to plate of this double diaphragm SSD1-SA-27 B/B.

Heat straightening was also observed on 6 open rib stiffener to side panel SP197(A)-001 weld joints 007, 008,

012, 013, 015, 017, 019~030, 043~054 due to welding distortion. Oxy-acetylene gas was used with thermal heat input of less than 600 degree C following procedure HSR1(B) - 1703.

Bay 7: OBG - Floor Beam Sub Assembly
The QA Inspector randomly observed ZPMC welder Duan Xiu Zhi ID Number 050502, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the fill pass on plate splice butt joint of floor beam FB003-068-001/006. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 567 amps, 30.1 volts with travel speed of 675mm/minute. Weld parameters appeared to comply with contract requirements.

This QA Inspector randomly observed ZPMC welder Zhang Qingquan ID #044774 and ID #066695 utilizing the FCAW Process in the 1G (Flat Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic to weld cover and fill passes on groove of web plate to flange corner joint on floor beam FB028-001-127 and longitudinal shear plate LD001-009-012 respectively. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

FCAW fillet welding (2F) was observed on stiffener to web plate of floor beam FB034-001-123 and 150 and FB033-001-036/037. ZPMC welders working on these were identified as Hong Shuili, Wang Quanlin ID# 066746 and Wang Hong Lei ID #066687. ZPMC CWI Hu Wei Qing was noted monitoring the parameters. Carbon arc gouging of CJP on flange to web plate of floor beam FB040-001 weld joints 125, 126 and 126 due to UT reject and per welding repair report B-WR652 this QA observed.

Heat straightening was observed on longitudinal shear plate LD003-020 weld joints 001~012 due to welding distortion. Oxy-acetylene gas was used with thermal heat input of less than 650 degree C and with the aid of 3-hydraulic Ram following procedure HSR1(B)-1591.

Bay 8: Tower Diaphragm
This QA Inspector randomly observed four ZPMC welder Jiang Yong Sheng ID number 045240, Liu Xialin ID #067079, Chen Chao Nian ID #048688 and Li Xing ID #066675 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly SSD1-SA311 A/B weld joint 3B and 12B, ESD1-SA301 A/B-6B and ESD1-SA290-8A respectively. The QA Inspector randomly observed ZPMC CWI Zhashi monitoring weld parameters.

Tack/fit-up of plate splice butt joint of floor beam FB074-001-015 and FB074-002-015 and web plate to flange of floor beam FB060-001-003 using TL-508 electrode this QA observed.

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials

for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer